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ABSTRACT

Physical educators will soon be confronted with having to demonstrate measurable and recognizable results of their teaching, particularly in terms of student physical, recreational, and social skills; this requires not only a focus on broad objectives, but a specific focus on short-term objectives that can be taught systematically. Behavioral objectives and analyses, for example, might address the following: social development and socialization in children, attitudes toward physical activity, and problems of the handicapped. For many physical education programs, accountability will require concentrating resources in a single area to demonstrate genuine valuable accomplishments. (DS)

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ACCOUNTABILITY IN THE GYMNASIUM:

A BEHAVIOR ANALYSIS APPROACH

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Accountability, a concept borrowed from the field of business management, involves the systematic analysis of various professions to ensure quality performance of their members. Under an accountability system educators are held responsible for what they do and for what effect their performance has on student achievement. Legal enactments, for example the Stull Act in California, are being implemented to require school districts to institute accountability procedures in regard to the performance of school boards, administrators, and teachers. Physical educators will soon be confronted with having to demonstrate measurable and recognizable results of their teaching, particularly in terms of student physical, recreational, and social skills. At first the concept of accountability may appear threatening, but at second glance it appears as a positive approach to educational management, assuring that specified ends result from specified costs. In a broad sense this is analogous to a contingency management system in which precise goals are established, strategies for change are identified, and consequences are contingent upon the attainment of the goals.

Three years ago at our National Convention in Atlantic City Siedentop (1975) proposed that gymnasiums and playing fields become laboratories and that teachers become researchers utilizing student behavior data to verify the results of instruction. In this presentation Siedentop was developing the groundwork for an applied behavior analysis approach to teaching. Essentially he was promoting grass roots accountability because of the analytic qualities of an approach that has the following features:

1) precise specification of goals that are objectively defined in observable and measurable terms;
2) continuous measurement and recording procedures;
3) evaluation designs that provide evidence not only of the completion of a program but also information regarding aspects of the program while it is being implemented; and
4) systematic application of the principles of operant conditioning, particularly the use of procedures previously demonstrated to be effective in developing and controlling behavior.

The presentations by other speakers today show direct application of behavior analysis techniques in physical activity settings. From these papers it is apparent how accountability results when behavioral approaches are used to change specific student or specific teacher behaviors. The present paper addresses a broad area of concern related to accountability in the gymnasium. This concern is in regard to the responsibilities that a physical education program has to achieve all stated and implied objectives.

In general, physical education programs are promoted with excellent goals in mind. These may include the development of socialization, sportsmanship, self-image, and positive attitudes toward physical activity. Unfortunately, these are broad general concepts and little information is available to show whether these

goals are attained or even if they are promoted in programs. Programs that are accountable are able to do what they are purported to do. Broad overall goals are desirable but it is the breaking down of a general goal into specific short term achievable objectives that promotes acccuntability. Rather than an overall goal occuring haphazardly, short term objectives can be taught systematically and assessments can be made to determine whether or not progress toward the goal has been made.

A model for organizing to teach a goal having complex social values has been developed by Locke (1977). This model has five stages: (1) verbally defining the concept; (2) listing specific observable behaviors that embrace the concept and those that do not; (3) identifying conditions that help people acquire the concept; (4) creating instructional strategies to teach the concept; and (5) creating strategies for measuring and evaluating results. Locke and his undergraduate students at The University of Massachusetts have applied the first four stages of the model to the development of sportsmanship, one complex social value promoted by most physical education programs. Further developments of the model, particularly application to live settings, should prove exciting to those concerned with developing social values.

Some procedures for attaining broad goals have been implemented in schools. For example, Austin and Brown (1978) reported a procedure to systematically promote social development in elementary school children through game play. These authors developed check lists consisting of categories for positive behavior development such as enthusiasm, positive reaction to officials' decisions, positive reaction to losing, and sharing responsibilities. Each category was defined in terms of behaviors that could be easily identified. For example, negative reactions to officials' decisions included kicking the ground, throwing down sticks, moaning and groaning in disagreement with the call, and arguing with the referee. Points were awarded or removed contingent upon positive or negative social behavior on an team basis. After each game feedback was provided to each team and a trophy was awarded monthly to the team with the best social score. Similar procedures are being used to promote socialization in physical activity settings at St. Andrews Elementary School in Austin, Texas. However in this system, points are earned throughout the class period on an individual basis, and free time on Fridays is used as a reinforcer (Lamodin, 1978). Both of these school systems have socialization as a goal, but rather than have it occur haphazardly, steps are taken to ensure that specific social behavior actually result from planned interventions.

In addition to socialization, physical education curricula often promote another broad based goal, the development of positive attitudes toward physical activity. This is a complex notion and programs have rarely been held accountable for its attainment. Junior and senior high school students readily point out events that cause them to dislike physical education classes. These include inactivity, such as standing in line and listening to lectures, doing the same activity day after day, being in overcrowded and poorly equipped gymnasiums, and receiving little or no instruction in the activities they are supposed to be learning. But their chief displeasure is in regard to the use of aversive control techniques commonly used to force them to participate. These include the threats and ridicule of teachers, pressure from peers, low grades, poor showing in competition, and extra work such as

push ups and running laps. Favorable attitudes about participating in physical activities are not likely to be enhanced under these conditions.

Physical education classes conducted under aversive conditions will cause students to avoid the situation (absenteeism, tardiness) or escape from it (disrupt the situation, leave). From a technical viewpoint, aversive control procedures have undesirable side effects, including the tendency for associated events, including the total environment, to become aversive (Staats, 1975). Unfavorable attitude toward physical education classes are likely to generalize and future participation in physical activity is placed in jeopardy.

A recent social-behavioral theory for human behavior that encompasses attitude development has been proposed by Staats (1975). His theory involves a mediational A-R-D system in which stimuli have three spearate but related functions, aroused-reinforcer-directive (A-R-D). Very briefly, the arousal function of stimuli is highly central to attitude and asserts that an event may have associated with it positive or negative emotional properties. Positive attitude would accrue to an event that is paired with positive reinforcement and negative attitude would accrue in a setting involving aversive stimuli. Attitude could be viewed as an approach-avoidance tendency toward an event.

Assessment of attitudes toward physical activity could involve the direct observation of student behavior under free choice conditions, such as when grades and other extrinsic consequences are not forcing participation. When this is not possible student self-reports serve as a practical and reliable substitute. At least three different pencil and paper techniques adapted to the developmental level of the students would be used. First, attitude could be estimated by having students rank-order a set of different activities. Second, students could be asked to estimate their approach or avoidance tendencies toward particular activiites. For example, they could indicate whether they engage in basketball, badminton and other sports during their free time. Third, students could be asked to report how they feel when engaging or asked to engage in some type of activity. By utilizing the results from the self-report data, teachers can determine the success a program is having in developing students' attitude toward physical activity and can make overall program adjustments or specific modifications for certain individuals. Self-report data can be evaluated through behavioral research designs much in the same manner as direct observation data. Multiple baseline designs across settings offer the most feasible method for assessing attitude change in physical activity enviornments.

Quite frequently direct observation data and self-report data can be combined to evaluate programs. This procedure was followed in evaluating the development of a behaviorally-based teacher education center for physical educators at The Ohio State University (McKenzie, 1976). The project involved a peer assessment model to develop teaching skills. Student teachers, assigned in pairs, observed, analyzed, and provided feedback to their partners. Direct observation data were collected on the student teachers and pupil behavior. Changes in these behaviors were assessed throughout the project, which involved the student teachers participating in a behavioral workshop and attempting to implement behavioral strategies in their own classes. In addition, consumer satisfaction data were solicited from all "clients", including school

administrators, regular classroom teachers, as well as the student teachers and their pupils. This project also provides an example of how a teacher training institution can be ome involved in assessing the accountability of it's own programs.

Any discussion on accountability in physical education would be remiss if it failed to mention recent developments brought about by Public Law 94-142, the Education for All Handicapped Children Act. The rules and regulations for implementing P. L. 94-142 boost the prospects of accountability in physical education tremendously. For example, the rules require that a written individualized education program (IEP) for each handicapped child be developed and reviewed annually by the child's parents, teachers, and school board representative. An IEP must include:

1. A statement of the child's present level of educational performance;
2. A statement of annual goals, including short-term instructional objectives;
3. A statement of specific special education and related services to be provided to the child, and the extent to which the child will be able to participate in regular educational programs;
4. The projected dates for initiation of services and the anticipated duration of the services; and
5. Appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether the short-term instructional objectives are being achieved. (Wessel, 1977, p. 3-4).

A preservice and inservice training program for the implementation of PL 94-142 by physical educators has already been developed and field tested. This program, Project I Can, funded by the Bureau of Education for the Handicapped and developed under the direction of Janet Wessel at Michigan State University, provides an instructional system that is individualized, based on specific behavioral objectives, provides for the sequential development of skills, and allows for replication and cost effectiveness comparisons (Wessel, 1976; 1977). Program materials include diagnostic assessment instruments and perscriptive instructional activities as well as individual and class score sheets which permit continous evaluation of progress. Self monitoring forms are also provided to help teachers evaluate their ability to implement the program. Physical educators at all levels, whether they deal with handicapped students or not, are advised to take an indepth look at the accountability model of I Can.

An important aspect of the I Can model is the sharing of the responsibility for student growth. Although this paper has focused on the physical education teacher as the main figure in establishing accountability in the gymnasium, it is not reasonable for a teacher to be held responsible until it has been shown that the program goals can be achieved under proper management. The reality of the situation is that many desirable and anticipated outcomes of physical education cannot be engendered by a teacher given the time and environmental constraints in which he must work.

It is also reality that programs are beginning to feel the economic crunch. Program survival depends upon the support of the public, school administrators, and the students themselves. Continued support will be contingent upon the demonstration of goal attainment. Programs based solely on broad general goals will have difficulty establishing accountability. Applied behavior analysis is beneficial in demonstrating changes in physical skill development and changes in other areas, such as socialization, providing these concepts are identified in precise behavioral terms. The collection of self-report data indicating consumer satisfaction with programs is also a useful assessment procedure. However to become accountable, many programs will have to eliminate their Toyota policy, "you asked for it, we got it," and focus on the second rule of contingency management, "think small". By concentrating resources in a single area, perhaps that of developing physical skills, physical educators will be able to demonstrate genuine valuable accomplishments.

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